

Commonwealth of Pennsylvania
Comment and Response Document for the
Southeastern Pennsylvania Eight-Hour Ozone Attainment Demonstration
July 2007

On May 19, 2007, the Pennsylvania Department of Environmental Protection (PADEP or Department) published a notice of public hearing and a 30-day written comment period on the proposed Attainment Demonstration for the eight-hour ozone nonattainment area (Bucks, Chester, Delaware, Montgomery and Philadelphia counties) 37 Pa.B. 1317. The public hearing was held at the PADEP's Southeast Regional Office, 2 East Main Street, Norristown, PA on Friday, June 22, at 1 p.m. The comment period closed on June 26, 2007.

This document summarizes the testimony received during the public hearing and the written comments received prior to the close of the public comment period. The list of commentators is set forth below:

COMMENTATORS:

1. Barry Seymour
Executive Director
Delaware Valley Regional Planning Commission
190 N. Independence Mall West
Philadelphia, PA 19106
2. Tom Weir
Chief, Program Services
Air Management Services, Department of Public Health
321 University Avenue
Philadelphia, PA 19104
3. Calvin Davenger
Deputy Director of Aviation for Planning and Environmental Stewardship
Terminal E, Philadelphia International Airport
Philadelphia, PA 19153

COMMENTS AND RESPONSES

COMMENTS:

1. **COMMENT:** *We agree that the area meets all requirements necessary for an approvable State Implementation Plan for a moderate nonattainment area and the plan demonstrates how the area will attain the National Ambient Air Quality Standard by June 2010 and meet 2008 and 2009 reasonable further progress milestones. (1)*

RESPONSE: The Department agrees. The “Attainment Demonstration,” which includes photochemical grid modeling analysis and weight of evidence demonstration including an air quality trends analysis, emissions trend analysis and the control measures demonstrates that the Philadelphia area will attain the eight-hour ozone standard by June 15, 2010.

2. **COMMENT:** *The Department’s motor vehicle budgets were based on projections of vehicle miles traveled (VMT) using growth rates from a statewide traffic growth forecasting system. The Delaware Valley Regional Planning Commission (DVRPC) has also prepared forecasts using DVRPC’s travel demand model and its latest planning assumptions. DVRPC’s VMT projections are slightly higher than in the SIP by about one percent in 2008 and two percent in 2009. DVRPC’s model meets federal requirements and is used for all transportation conformity demonstrations in the Philadelphia nonattainment area. DVRPC therefore requests that the SIP VMT estimates be increased to better correspond to DVRPC’s projections and analysis. (1)*

RESPONSE: The Department agrees that the commentator’s approved VMT forecasting methodology for the Philadelphia area differs from the statewide forecasting methodology employed by the Department. For the purposes of developing conformity budgets, the Department has sought to maintain statewide consistency by applying one methodology for setting each Metropolitan Planning Organization’s (MPO) budget. The Department does recognize, though, that VMT forecasting, a key element in calculating future year emissions from highway vehicles, is a difficult and sometimes imprecise process in which various techniques and inputs may result in different estimates. Furthermore, the Department recognizes that the commentator’s VMT forecasting tools employ more detailed and area-specific inputs than the general statewide methodology. Given the commentator’s enhanced data and approved models, it could be considered appropriate to use the commentator’s projected VMT and emissions estimates as the new conformity budget. However, the Department is concerned that using a second, non-Department controlled model to determine a budget, or by using county-by-county VMT and emissions estimates generated by the commentator, even if the travel demand model is federally approved, could undermine the integrity of using a standard, statewide, VMT forecasting methodology for setting conformity budgets for areas across the Commonwealth.

In order to find the balance between the Department’s desire for statewide consistency and using data that could lead to a more robust estimate of future VMT and emissions for the entire non-attainment area, the Department will establish conformity budgets based on the commentator’s estimated 2008 and 2009 VMT for the entire five county area. However, the Department will distribute the increased VMT evenly across the five counties in consideration of the small differences between the commentator’s and the Department’s methodologies. Emissions estimates, using the adjusted county specific VMT estimates, will then be generated. These estimates will, in turn, establish the transportation conformity budget for the Pennsylvania portion of the interstate non-attainment area.

While this change does slightly increase the emissions budgets, it does not interfere with the area's "reasonable further progress" requirements or the ability of the Department to demonstrate the area's future attainment of the 8-hr ozone standard. The change in regional VMT from the proposed data and calculations is 1.7% and 2.5% in 2008 and 2009, respectively, with an associated change in estimated emissions of 1.25% and 2.25% in 2008 and 2009, respectively.

The Department has updated the proposed maintenance plan with the adjusted VMT and subsequent emissions estimates and has reflected these changes in the conformity budget. Further explanation of the VMT adjustment is provided in Appendix E.

3. **COMMENT:** *The Department is constrained in making area source emission estimates by practicality and by the importance of maintaining consistent estimation methods. However, in some cases, this results in emission estimates that poorly represent emissions in the City of Philadelphia. For example, the commentator believes there is no combustion of anthracite coal for industrial, commercial or institutional use within the city. On-site incineration at industrial, commercial and institutional facilities is strictly controlled and emissions are significantly less than reported in the inventory. In other cases, the estimation method, which may be based on emission factors per employee, overestimates the emissions from major sources, which results in the remaining area source estimate being too high. The VOC emission estimate for bakeries (SCC2302050000) is an example. (2)*

RESPONSE: The Department appreciates the commentator's understanding of the needs for consistency of estimation methods. The Department is aware that there are several counties in the Commonwealth where there is not likely to be substantial combustion of coal by industrial, commercial, or institutional facilities. However, after careful study, no method has been devised, other than costly surveys, to determine the number of non-major facilities in each county using coal or to determine the amount of coal used at each of these facilities. For this reason, the 2002 inventory used County Business Patterns to determine the number of industrial, commercial, and institutional facilities in each county. These numbers were then used to distribute coal consumption among the counties. This method is compliant with Emission Inventory Improvement Plan (EIIP) methodology. For on-site incineration, the Department also used County Business Patterns to determine the number of employees at all industrial, commercial, and institutional facilities and multiplied the emission factor to determine the most likely emission number for each county. Once again, without a costly survey, this is the best method available for calculating. Emissions from bakeries were calculated using County Business Patterns to determine the number of employees by county for NAICS numbers 311811 and 311812 (Retail and Commercial Bakeries). These numbers were then multiplied by an emission factor obtained from EPA via memo to determine the VOC emissions from each county. Please note that the large bakeries contained in the point source inventory were subtracted from the area source inventory. This method is compliant with EIIP methodology.

4. **COMMENT:** *The comments about the area source inventory do not alter the premise and outcome of the proposed SIP revision. They indicate areas for inventory improvement particularly if such sources are considered for future emission control or are projected to decrease when projected to future years. (2)*

The Department welcomes input by the commentator for improvement of the area source inventory in the City of Philadelphia. The Department strives to develop a consistent, but logical, inventory and is consistently researching literature and meeting with interested parties in order to develop better methods of estimating emissions. The Department intends to work with the AMS to improve the accuracy of area source inventory data for the City of Philadelphia.

5. **COMMENT:** *The Division of Aviation would like to commend the Department for the draft SIP revision that has an accurate and detailed reflection of airport-related emissions. (3)*

RESPONSE: The Department appreciates the comments and also commends the airport for providing the data on airport activity, which made the detailed inventory possible.

6. **COMMENT:** *The Division is appreciative that the draft SIP revisions specifically identify the proposed Capacity Enhancement Program (CEP) at Philadelphia Airport. The Division requests that Appendix F-2 of the draft SIP revision be modified to also describe the projected air quality impact of the CEP. While much of the CEP emissions will occur in the years following the SIP, there are 37.7 tons of NO_x emissions from construction equipment that are expected to occur between January 1 and June 15, 2010, a time period covered by the SIP revision. The following should be inserted on page 13 of Appendix F to reflect emissions occurring between January 1 and June 15, 2010: "The Airport's CEP [Capacity Enhancement Program] is expected to significantly ramp up the level of construction activities to greater than \$5 billion of expenditures over a decade. This is also expected to generate substantial construction emissions and result in a temporary increase in emissions from airfield delay. However, the CEP is not projected to begin until at least 2010 and these emissions will occur following the forecast attainment year of 2009. The construction emissions that will occur between January 1, 2010 and June 15, 2010 are forecast to be 37.3 tons of NO_x." (3)*

RESPONSE: The Department has been an active partner in the review of the Environmental Impact Statement (EIS) for the CEP, including general conformity requirements. On May 7, 2007, the Department received a letter from the Federal Aviation Administration indicating a delay in the CEP EIS process until a final decision is reached regarding the pending Airspace Redesign for the Philadelphia International Airport (PHL), so that the impacts of both actions can be evaluated in the CEP EIS. A draft CEP EIS is now expected in August or September 2008.

The Department understands that it is possible that construction of the chosen alternative could begin in the first half of 2010 and appreciates the airport supplying an estimate for

construction emissions that may be generated by the project before the date of attainment, as well as the type of equipment from which these emissions would be generated. This could amount to about one-third of a ton per day of nitrogen oxides, generated from off-road equipment. It is reasonable to assume that most of these emissions are already included in the regional off-road inventory.

The Department understands, however, that the first year of the project is not expected to be the year of maximum construction emissions, no matter which “build” alternative is chosen, and that for several years, construction equipment would need to be imported into the Philadelphia nonattainment area for the project and therefore, all of those emissions would not already be included in the regional off-road inventory for future years. Therefore, the Department looks forward to continuing to work with the PHL Airport on accommodation and mitigation strategies so that the CEP can be found to meet general conformity requirements.

7. **COMMENT:** *The commentator suggested several minor clarifying and explanatory changes or additions to Appendix F-2, Philadelphia International Airport Inventory and Methodology in the format of a “track changes” document in MS Word. An example is an additional explanation of how the EPA-approved aircraft model calculates taxi time, idle time and delay time.*

RESPONSE: The Department appreciates the comments and has made changes, as appropriated, if they are pertinent to the eight-hour ozone Attainment Demonstration for the Philadelphia Area.